

**REMARKS**

Claims 1-3, 5-7, 9-14, 33 and 36 have been amended. Claims 1-32 remain in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

Claims 1-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Shirasaki USP 6,185,040 in view of Miron USP 7,002,696. Claims 33-38 were rejected under 35 U.S.C. 103(a) as being unpatentable over Shirasaki in view of Miron and Ranalli USP 6,285,500. The Examiner stated:

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that each tap should have substantially equal output intensity; the use of a gradient reflectivity) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As to applicant's argument that Miron fails to teach a surface having a variable reflectivity, the examiner disagrees. First, the claim language fails to recite any limit on how the reflective surface is variable. As such, Miron clearly provides a variable reflectivity surface in that the spacing between the reflective layers is variable thereby allowing adjustment to the optical path difference (OPD) which is an even multiple of the elementary optical path difference (EOPD) and further allows control over optical intensity of the output beams (column 7 lines 1-10).

Furthermore, the examiner maintains that the Ranalli reference allows the taps to interfere being that, as noted by applicant, the taps occupy the same position in space. As to applicant's assertion that the beams in Ranalli do not interfere since they are orthogonal, the examiner notes that Ranalli specifically teaches that:

"Beam combiner 44 creates two identical sets of superimposed wavelength channels (1s, 2p) incident focusing lens 46. By superimposing each of the s-polarized wavelength channels with its corresponding p-polarized wavelength channel, each superimposed wavelength channel includes the information payload from the first fiber wavelength channel (1 s) and the second fiber wavelength channel (2p). Lens 46 focuses each superimposed wavelength channel onto its respective liquid crystal switch cell 22 to thereby combine the two identical sets of information into one superimposed wavelength channel incident on switch cell 22."

In other words two optical wavelength signals having the same polarization occupy the nearly the same position in space, which, according to applicant produces interference. Furthermore, interference by definition is the superposition of two or more waves resulting in a new wave pattern. This is clearly the case in Figure 5 of Ranalli.

These rejections are respectfully traversed with respect to the claims, as amended.

The claims, as amended, are directed to methods and systems comprising a number of elements in combination. Amended claim 1, for example, is directed to a transmitting system comprising a processor, an integration lens, an optical fiber and a variable reflectivity surface. The variable reflectivity surface varies in reflectivity along its length and is configured to impart a desired amplitude profile onto the output taps. Support for such a combination, including a variable reflectivity surface that varies in reflectivity along its length, is found, for example, in paragraphs 50 and 56 of the present application. No new matter has been added.

In contrast to the amended claims, Miron fails to disclose or suggest a similar combination of elements. Miron fails to teach or suggest a combination including a variable reflectivity surface that varies in reflectivity along its length and is configured to impart a desired amplitude profile onto output taps. There is no teaching or suggestion in Miron or in any other cited reference of a combination including a variable reflectivity surface that varies in reflectivity along its length.

In addition, claims 33-38 have been amended to recite a combination including a second input beam which projects at an angle to a plane of the optical tapped delay line linear array to interfere with each optical tapped delay line beam and establish a region of spatial overlap of the optical tapped delay line beams, and a two-dimensional photo detector array arranged to sample the interfering beams and spatially operate on the beams in the regions of spatial overlap. An example of this embodiment is described in paragraph 65 of the present application, in which two illuminations on the photo detector are tilted in phase as a result of the separation of two illumination sources such that the interference between them produces a single cycle of a spatial carrier across the four detector rows. This spatial carrier allows the detection of the complex correlation value.

A similar combination is neither disclosed nor suggested in Ranalli. Ranalli fails to teach or suggest using the interference of light. Ranalli solely uses the polarization differences to operate on the light, passing two light beams through the same space but with differing propagation directions so that they become spatially separable upon exit. In contrast, the amended claims spatially operate on the light in the region of spatial overlap. The amended claims spatially operate on the light in the region of spatial overlap, thereby taking advantage of the interference. A similar combination is neither disclosed nor suggested in Ranalli.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 509622000700.

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Respectfully submitted,

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